INFORMATION AND COMMUNICATION TECHNOLOGY   (ELECTIVE)

1. **AIMS**

The aims of the syllabus are to:

(1)   test candidates' appreciation of the concepts of Information and Communication Technology (ICT);

(2)   test the capabilities of candidates in the application of ICT skills in education and business;

(3)   verify candidates' potential for higher studies in Information and Communication Technology and related areas.

2. **SCHEME OF EXAMINATION**

There will be three papers, Papers 1, 2 and 3 all of which must be taken. Papers 1 and 2 will be a composite paper to be taken at a sitting.

PAPER 1: Will consist of fifty multiple-choice objective questions all of which must be answered within 1 hour for 25 marks.

PAPER 2: Will consist of five essay-type questions. Candidates will be required to answer three questions within 1 hour for 30 marks.

PAPER 3: Will be a practical test consisting of three questions all of which must be answered within 2 hours, for 45 marks.

1. **DETAILED SYLLABUS**

TOPIC	NOTES
1. DATA REPRESENTATION	1.1 Data types e.g integers, real numbers, strings etc 1.2 Number bases with special reference to binary, decimal and hexadecimal. 1.3 Units of data storage.
2. INTRODUCTION TO INFORMATION SYSTEMS	2.1 Meaning of information system 2.2 Knowledge of the different types of information systems. 2.3 Attributes of good information. 2.4 Internal and external information eg. intranet, extranet, memos, intercom, talking drum, mobile phone etc. 2.5 The role of information in society.
3. INTRODUCTION TO DIGITAL	3.1 The Internet 3.2 Computer crime

TECHNOLOGY CULTURE	3.3	The role and impact of Information Technology on everyday life e.g e-business, e-health, e-mail, e-learning, Computer Based Training, Computer Assisted Manufacturing, Computer Aided Design, etc.
	1.4	Knowledge of media types e.g digital videos and
	1.5	digital sounds, voice over internet protocol (VOIP),voice recognition system, etc.
4. WORD PROCESSING	4.1	Creating, editing and formatting documents.
	4.2	Business documents eg. memos, reports etc.
	4.3	Mail merge.
	4.4	Printing of documents.
5. DESKTOP PUBLISHING	5.1	Creating, editing and formatting documents.
	5.2	Printing publications.
6. SPREADSHEET	6.1	Creating, editing and formatting documents.
	6.2	Sorting and querying for information.
in	6.3	Creating graphs and charts to represent data in worksheets.
	6.4	Working with functions
	6.5	Data security: use of passwords.
7. HARDWARE	7.1	External components and their functions.
	7.2	Internal components and their functions.
	7.3	Computer Diagnostics and Maintenance.
8. SOFTWARE	8.1	System software e.g operating systems and their functions.
	8.2	Utility programmes and their uses.
	8.3	Types of application programs.
	8.4	Software licensing considerations.
	8.5	Installation and upgrading of computer software.
	8.6	Software terminologies and concepts: - machine language; - high-level versus low level; - use of fourth generation language; - use of language translators; - source code; - Error messages; - Software portability; - Compilers; - Interpreters; - Assemblers, etc.

9.	NETWORKING	9.1	Network concept.
		9.2	Types of networks.
		9.3	Network Topology
		9.4	Network Architecture.
		9.5	Network configuration.
		9.6	Communication of data on networks.
		9.7	Data security on networks.

10.	INTRODUCTION TO PROGRAMMING	10.1	Flow charts
		10.2	Algorithms and data structures
		10.3	Program development life cycle.
		10.4	Programming languages.
		10.5	Web design using HyperText Mark-up Language (HTML).
		10.6	Practical knowledge of BASIC and HTML programming languages. Questions will however be limited to QBASIC.

11.	DATA BASE MANAGEMENT SYSTEM	11.1	Designing and creating data bases.
		11.2	Working with queries.
		11.3	Working with forms.
		11.4	Working with reports.

12.	APPLICATION OF ICT TOOLS IN EDUCATION	12.1	Types of tools.
		12.2	Learning with ICT tools
		12.3	Advantages and disadvantages of using ICT tools in learning.